REMARKS

The Office Action dated September 16, 2009, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1-8 and 11-15 are currently pending in the application, of which claims 1 and 7 are independent claims. In view of the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections of claims 1-8 and 11-15, for the reasons discussed below.

Claims 1-8 and 11-15 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Japanese Publication No. 61-126940 of Masaji *et al.* ("Masaji") in view of U.S. Patent No. 5,531,085 of Hayes ("Hayes"), in view of U.S. Publication No. 2003/0168126 of Oohama *et al.* ("Oohama"), and further in view of Japanese Publication No. 2002-059241 of Shigeki *et al.* ("Shigeki"). Applicants respectfully traverse the rejection because the attempted combination of references fails to render the claims obvious.

Claim 1, upon which claims 2-6 depend, is directed to a forging method including a plurality of press operations to form a product. The method includes spraying a workpiece with lubricant more than once, said workpiece already having been heated due to a machine related earlier press operation prior to a press operation of forming the workpiece is conducted, at least one of the spraying with lubricant operations being conducted when the lubricant sprayed in a preceding spraying operation has been dried.

The method also includes after the lubricant sprayed in a final spraying of said workpiece has been dried, forming the workpiece via said press operation.

Claim 7, upon which claims 8 and 11-15 depend, is directed to a forging apparatus. The apparatus includes an extruding apparatus that comprises a plurality of press stages, wherein a workpiece is successively transferred to the plurality of press stages of the extruding apparatus. The apparatus also includes a conveying unit for successively transferring the workpiece comprises a plurality of nozzles for spraying the workpiece with lubricant, wherein the workpiece and the plurality of nozzles are located in fixed relative positions with respect to each other in spraying the workpiece with the lubricant, and wherein lubricant is sprayed from the plurality of nozzles in different directions, and the nozzles spray the lubricant in a sequential fashion, and after the lubricant sprayed from the plurality of nozzles has been dried, more lubricant is again sprayed from the nozzles or after the lubricant sprayed from one of the nozzles has been dried, more lubricant is again sprayed from another of the nozzles.

It is respectfully submitted that the combination of references is improper and that the references, considered individually or in any proper combination, fail to disclose or suggest all of the features of any of the presently pending claims.

For example, Masaji merely discusses the steps of applying lubricant, chamfering, applying lubricant again, and thereafter performing warm forging. Therefore, Masaji and the other references (as will be further discussed below) neither disclose nor suggest "spraying a workpiece with lubricant more than once" before "forming the workpiece via

said press operation" as recited in claim 1. Thus, the cited art fails to disclose or suggest all of the features of claim 1, or of the claims that depend therefrom.

Furthermore, it is well established in United States patent law that a piecemeal analysis of a number of references, to extract a number of individual elements which are picked an chosen to recreate the claimed invention, is improper absent some reason (such as teaching, motivation, or suggestion) in the references (or otherwise in the knowledge of one of ordinary skill in the art) to support their use in the particular claimed combination. It is improper to look to Applicants' own disclosure for any such motivation or incentive. *Interconnect Planning Corp. v. Feil*, 227 USPQ 543 (Fed. Cir. 1985), *Symbol Techs. Inc. v. Opticon, Inc.*, 19 USPQ2d 1341 (Fed. Cir. 1991), *In re Rothermel*, 125 USPQ 328 (CCPA 1960), and *In re Jones*, 21 USPQ2d 1941 (Fed. Cir. 1992). In the present rejection, the various references were cited in patchwork fashion for various features of the claims, as shown below.

- Masaji was cited as alleged teaching "a forging method for applying a lubricant to a workpeice in multiple steps."
- Hayes was cited as alleged teaching "a lubrication system with nozzles that are programmable to operate intermittently [and] a conveying unit for transferring the workpiece."
- Oohama was cited as alleged teaching "a workpiece with a cup section and a shaft section [and (apparently)] forging at a low temperature."
- Shigeki was cited as alleged teaching "a lubricant applicator for a forging method with a drying station after the lubricant is applied to the workpiece."

This approach to the rejection is also legally inadequate because there is no clear correspondence provided between what is claimed and the cited art. Applicants

respectfully submit that the cited art does not render the claimed invention obvious. Furthermore, the patchwork approach to the rejection is itself plainly improper because it is not motivated by the knowledge of ordinary skill in the art but rather by improper hindsight reconstruction.

Masaji generally relates to the manufacture of a bevel gear by warm forging. In the forging process of Masaji, the blank is coated with lubricant, heated, and warm forged. Subsequently, the blank is cooled and the result is a bevel gear product. This reference does not appear to be particularly relevant to the claimed invention. Masaji mentions a forging process and the use of lubricant during a forging process, as well as a process of first beveling the blank before warm-forging it, but that seems to be about the limit of Masaji's relevance (at least as to the abstract of Masaji, which was all that the Office Action relied upon).

Hayes generally relates to a die lubricant applicator. Hayes' applicator uses a plurality of injection nozzles to supply a pressurized lubricant to a die of the die press. Thus, unlike in Masaji, the lubricant of Hayes is applied to the die, not to the blank. Hayes does mention that the lubricant can be applied by various nozzles at various times in the die press cycle. There is nothing about Hayes' system that would particularly commend itself to the artisan of Masaji or vice versa because each system is addressing different lubrication needs. In particular, Hayes is particularly concerned with a system that does not apply lubricant to other things than the die (see column 1, especially lines 35-48).

Thus, it would not have been obvious to combine Masaji and Hayes so as arrive at the present invention, or even in general to combine them. The Office Action asserted that the reason that one of ordinary skill in the art would have combined the teachings of Hayes into those of Masaji was because "intermittent lubrication application allows for incremental adjustment of lubrication as suited for processing needs." There is no teaching in either reference, however, that such incremental adjustment would be either necessary or desirable for a workpiece, and particularly for the workpieces of Masaji's system. Masaji, in particular, suggests a dipping technique for applying lubricant. Such a technique would not be "improved" through the use of intermittent lubrication application in the way that Hayes aims to provide improvement, because it is not a spraying technique such as the techniques that Hayes aims to improve. Additionally, it should be noted that the proposed motivation has nothing to do with the alleged teaching of Hayes "a conveying unit for transferring the workpiece." Thus, the proposed motivation to combine is improper and plainly insufficient to warrant a conclusion of obviousness.

Oohama generally relates to an outer ring member for a constant velocity joint and method of manufacturing the member. In the manufacturing process of Oohama there is a pressing step, a lubricating step, a low temperature annealing-while-lubricating step, a backward extrusion step, an ironing step, and finally hardened. Thus, Oohama only includes a single lubricating step. Additionally, before and after the lubricating step, Oohama specifically teaches away from using an additional low temperature annealing

and lubrication step. Thus, it would not have been obvious to combine Oohama either with Masaji or with Hayes.

The Office Action took the position that it would have been obvious to combine Oohama with Masaji as to "a workpiece with a cup section and a shaft section" because the product of Oohama is allegedly a "common product formed by forging presses well-known in the art." This alleged motivation appears to be essentially moot with respect to the independent claims.

The Office Action also took the position that the forging at low temperature feature of the claims was obvious. Although such a feature is not in the independent claims, several dependent claims provide a range of 150 to 250 °C. The Office Action asserted that "where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." This allegation seems to be irrelevant to the present situation.

In the present situation, Masaji provides temperatures that are significantly above the range recited in the pending claims. While Oohama discusses "low temperature annealing," Oohama does not provide even a general range of temperatures to which this is alleged to correspond. Even if Oohama did provide such data, there is no reason one of ordinary skill in the art would depart from the values of Masaji simply because Oohama provides a different approach. Indeed, there is no reason (such as teaching, motivation, or suggestion) that would have lead one of ordinary skill in the art to modify Masaji

based on Oohama to arrive even at a general range, of which 150 to 250 °C would be the optimal range. Accordingly, the proposed motivation is improper and insufficient.

Shigeki aims to provide a compact and inexpensive lubricant applicator. The applicator includes a cleaning station, an application station, and a drying station, the stations being arranged along an arc-shaped path. It would not have been obvious to include Shigeki's compact lubrication applicator in the other discussed systems, at least because it would seem to be an unnecessary complexity, since none of the other references indicate drying to be important. Additionally, since drying would seem to remove lubrication, that would seem to be contrary to the purposes of the other cited systems.

The Office Action took the position that it would have been obvious to combine Shigeki with the other references but the rationale seems to include some sort of typographic error, leading to a sentence that does not make much sense. Apparently, the rationale is that Shigeki would lead a person of ordinary skill in the art to want to "provide a means for drying between lubricant steps as complete drying of each lubricant layer ensures complete lubrication of the workpiece." This motivation seems to be drawn solely from the present application and not from the knowledge of one of ordinary skill in the art. Furthermore, it is not found or taught in the abstract of Shigeki, which is the only portion of Shigeki upon which the Office Action relied.

Furthermore, dipping the workpiece (as in Masaji) would also appear to provide complete lubrication of the workpiece. Accordingly, even if Shigeki's system would

provide the alleged benefit, such a benefit would provide no apparent advantage to Masaji's system, since Masaji can already provide complete lubrication to a workpiece. Thus, the proposed motivation to combine is improper and insufficient.

Additionally, it is respectfully submitted that the large number of references in combination with their very different teachings demonstrates the non-obviousness of the invention. Reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention (*See In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991)); nevertheless, the "more" here is the fact that the references do not share a unifying theme. For example, Masaji is directed to the manufacture of a bevel gear, whereas Hayes is directed to a die lubricant applicator. The differing purposes and objectives of the various references demonstrate the non-obviousness of the invention and establish, in conjunction with the fact that a large number of references has been used, that the claims should be patentable over the cited art of record. Thus, for this additional reason, it is respectfully requested that the rejection be withdrawn.

For the reasons set forth above, it is respectfully submitted that each of claims 1-8 and 11-15 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1-8 and 11-15 be allowed, and that this application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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